

# Technic Snowspeeder

By Antti Hakala

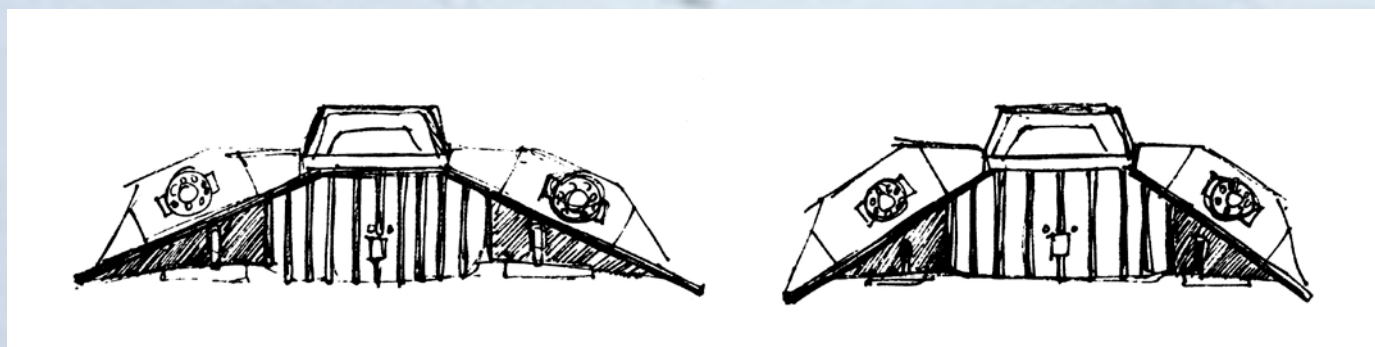
My name is Antti Hakala or "drakmin" on internet. This is a short story of my recent LEGO® project: Snowspeeder.

I like to create. I like turning ideas into reality. I have designed and built furniture, speakers and computer cases. Building LEGO is a nice cleaner version of all the other DIY hobbies. No fear of sawdust, metal waste or dirty hands, just some bricks to step on :) Therefore my interest in LEGO is not the bricks themselves but the easy system for bringing most ideas alive.

In the LEGO world I've always been more interested in building Technic than System. When released, the new studless Technic instantly got my imagination working and I realised I could build System looking models using only Technic. I try to achieve scale model looks and still have the ordinary Technic functions. My snowspeeder is a good example of this "Technic purist" way of achieving smooth surfaces and not losing functions.

I usually choose what to build based on what other builders haven't done already. For some reason I try to avoid cars, I find their shapes maybe too hard to be recreated perfectly. When googling Star Wars ships and LEGO I didn't find any Technic built snowspeeders and decided to give it a go.

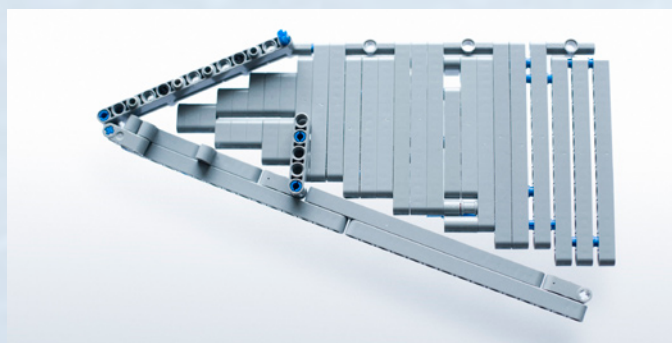
The first step of this project was to gather reference images. Maybe the most unique aspect of this snowspeeder is the fact that the Star Wars films had two different looking models. One where actors could fit in and another for the flight scenes. These two models have pretty different geometry and shape so I needed to make a choice which one to build. I ended up mixing both to have a fast looking sleek overall shape and still some space for interior. Too much interior space in this model would have led to a too steep wing angle and a slightly blunt overall shape. In the end I got a nice looking model though it could have used a bit more interior space for adding some more cockpit details. Maybe mechanically adjustable seats would have been cool to have.



Quick study of different wing angles

This ship has a lot of triangular areas on the hull which are rather hard to make gapless with Technic. Filling the gaps is also kind of a balancing with clean looking brick placement and the amount of see through holes left. I think I found a pretty good balance on this scale.

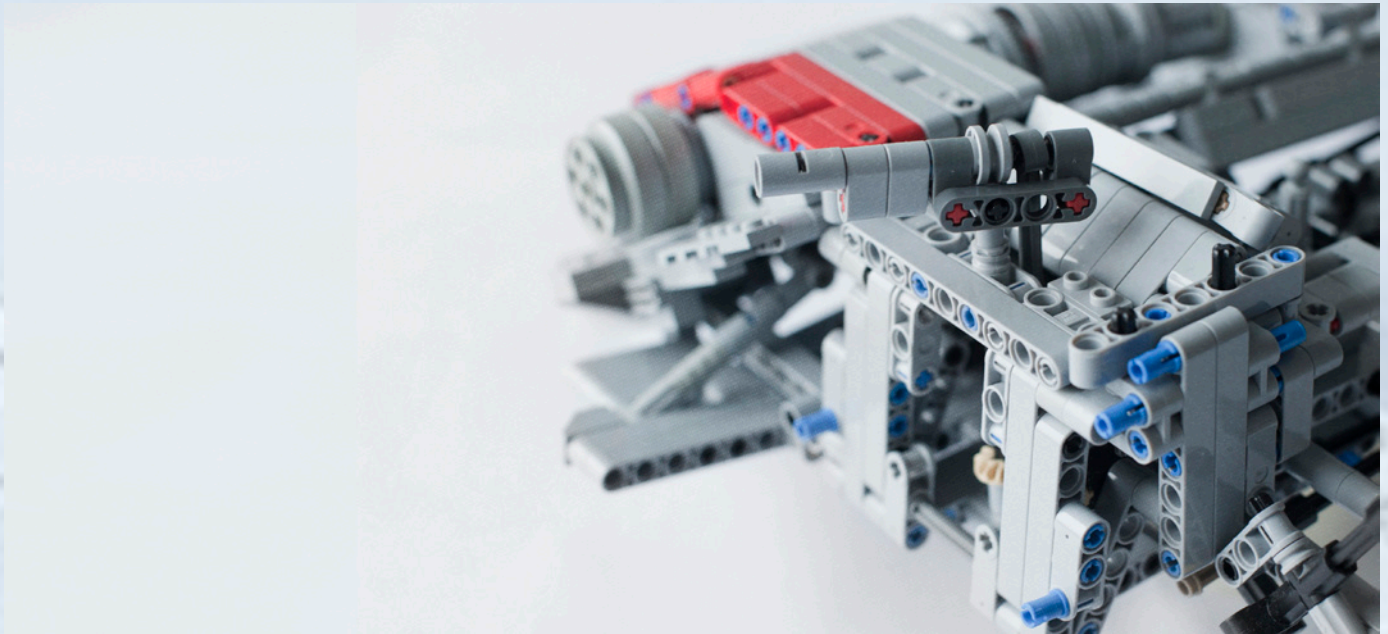
All my building seems to be balancing things so the next balance to find is the looks versus the amount of functions. My building style is iterative and I learn by making mistakes. First I sketch some of the hardest shapes to get the minimum size and scale of the build. Then I try to fit in some functions and continue again with the outer body. Usually everything needs to be started from zero multiple times and built totally differently to overcome problems. The most common problem is to have the outer shell for the looks take up too much space from the functions. I use Technic liftarms on their side and many times my models also need a skeleton to keep the shell intact. I find building from large and rough lines towards small details the best method.



Here's a section of wing. It doesn't look like much on its own but it gives an idea of my building style

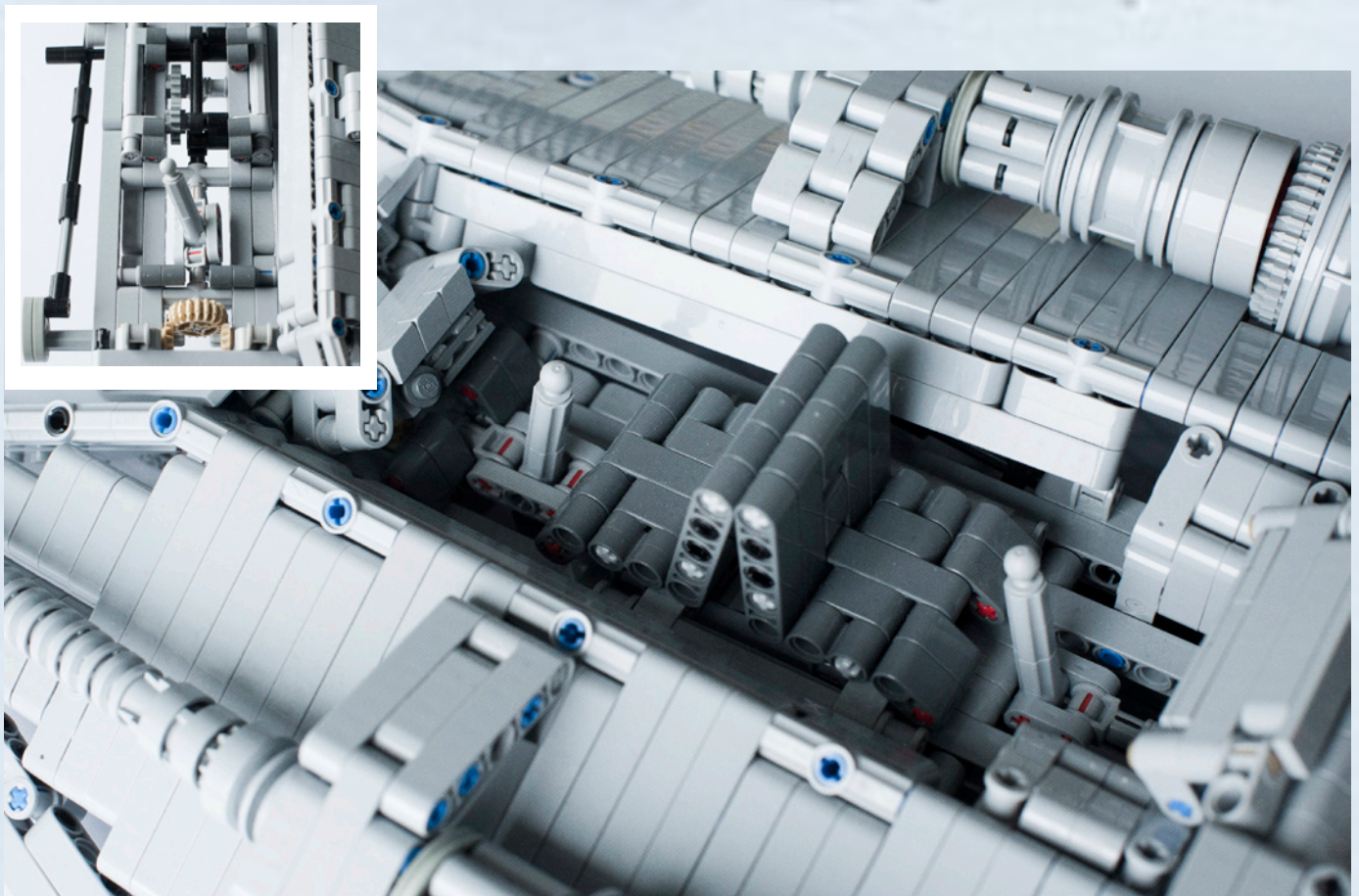


Usually I have more functions planned than what I can actually manage to fit in in the end. On this snowspeeder I originally wanted to have a cockpit opening mechanism. Unfortunately all the solutions I was able to find affected the look of the cockpit opening part too much and I had to dump it. Also, the rear harpoon mechanism got a bit bigger than planned which didn't help :) The function I'm most pleased with is the rear harpoon since I was able to add both pan and tilt. Panning was easy to build but the tilt mechanism took some time to fit in the limited space. I also wanted the tilt mechanism to be practically invisible from the outside of the model.



Pan and tilt harpoon. Smallest and least visible tilt mechanism I was able to design

In official LEGO® Technic sets I dislike functions that are placed to be used outside of the cockpit of the model. That's why I place control sticks inside the cockpit to actuate functions of a model. It's closer to reality and easier for imagining flying the ship yourself :)



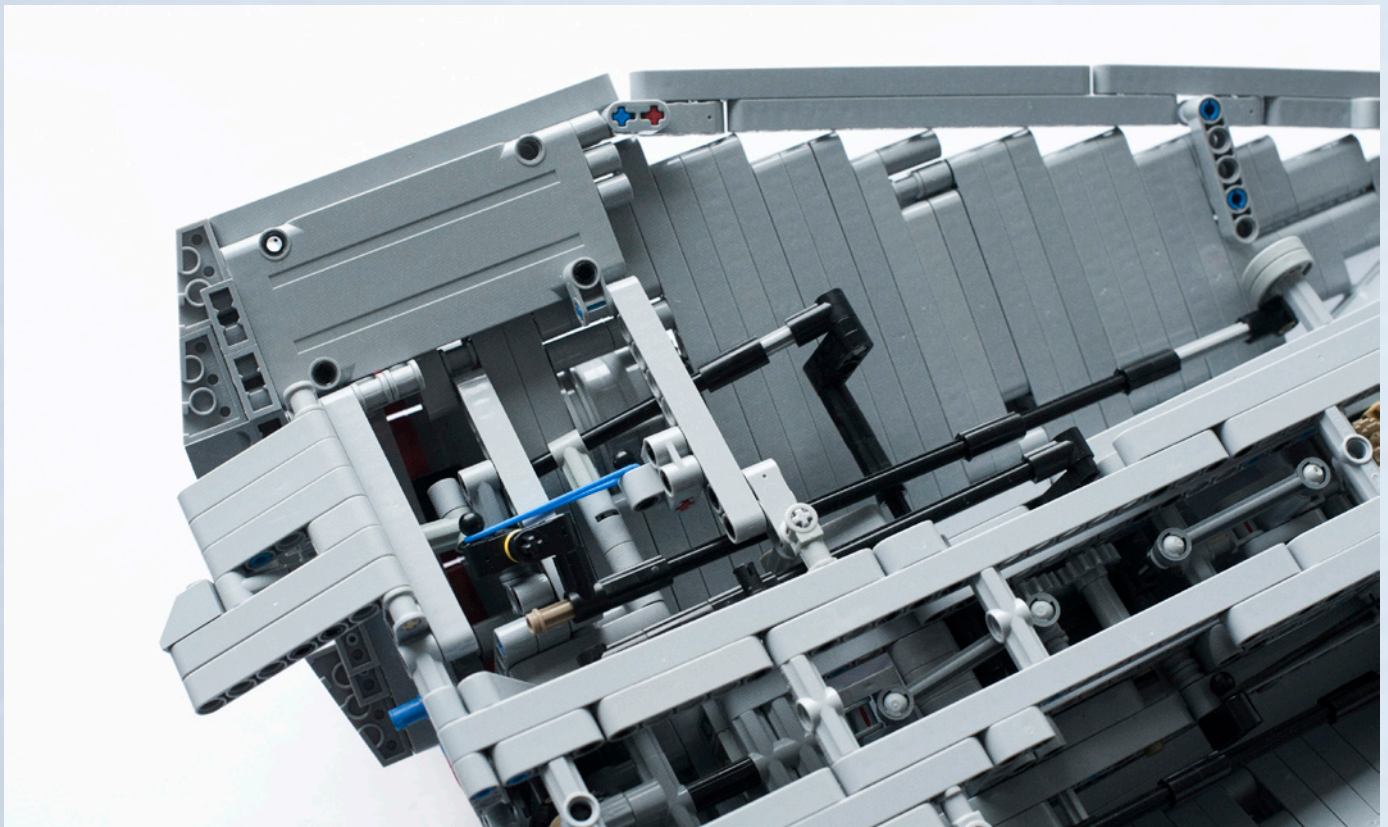
Controls, 2 pieces of x-y joysticks



The single hardest area to build accurately, the cockpit opening canopy. Biggest flaw left is the absence of solid roof area.



This image shows a bit how airbrakes get their "power" from joysticks. There's basically one rod per function, almost like an old airplane.





First iteration finished in 2011.



As you can see, I was not satisfied with the first snowspeeder I built. I started once from complete zero and finally got the look right. The first speeder was also missing lower air brakes and tilt of the harpoon. Now I can say this is the best I can do on this specific scale.

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